

Travis Zhang

480-434-8095 | tz98@cornell.edu



Education

Cornell University, College of Engineering

Bachelor of Science in Computer Science

GPA: 3.931/4.0

- **Relevant Courses:** Multivariable Calculus, Discrete Structures, OOP and Data Structures, Introduction to Machine Learning

Hamilton High School

Weighted GPA: 4.927/5.0

- **Relevant Courses:** Multivariable Calculus, Differential Equations, Linear Algebra, AP Java, AP Physics C: Mechanics and E & M
- **Honors:** Steve Sanghi Scholarship Award, Andy Grove Intel Scholarship, Impact Scholarship, National Honor Society Semifinalist Scholarship, Worth & Dot Howard Foundation Scholarship

Experience

ASU Robust Machine Learning Group

Student Researcher

- Applied transformation-invariant constraints on adversarial training using Tensorflow to improve Convolutional Neural Network (CNN) performance
- Implemented 3 algorithms to reduce time for loss to converge for proposed methodology (up to 60% reduction)
- Designed and implemented optimization algorithms in Pytorch to fool a Deep RL agent in a realistic scenario

University of Central Florida's Competitive Programming Camp

Student

- Learned about various competitive programming algorithms including Dijkstra's algorithm and Prim's algorithm
- Competed in 5+ programming competitions at the camp

ASU Signal, Information, Networks, and Energy Laboratory

Student Researcher

- Created program to temporally and spatially interpolate power outputs of solar panels using Python libraries
- Analyzed patterns in cloud coverage and temperature to account for fluctuations in power output

Activities

Cornell Data Science Project Team

Incoming Member for the Intelligent Systems Subteam

Associate of Computer Science Undergraduates

Academic Officer

- Helped organize and host academic events including Research Night and internship/research panels

Hamilton Robotics Team

Head of Electrical, Head of Communications

- Designed robot using Solidworks and used CNC router and mill to build precise parts
- Programmed autonomous, teleoperated, and vision code for robot using Java and FRC WPI Library

Mathworks Math Modeling Challenge

Team Leader

- Developed and implemented mathematical models in Python to solve real-world problems
- Wrote a 15+ page research paper to report experimental designs and results

Personal Projects

HackOurCampus Hackathon

Aug 2020 – Sep 2020

- Designed iOS app using SwiftUI that reminded students to bring both COVID-related and personal items
- Implemented Geofencing technologies to encourage social distancing and track when to send out reminders

National Honor Society App

July 2019 – Jan 2020

- Developed both iOS and Android mobile application and implemented Google Firebase for high school's NHS club

CUSD Equity Symposium App

Nov 2018 – May 2020

- Produced iOS app for the Chandler school district's annual equity symposium
- Integrated Google Firebase to build a login system and to store symposium information in a database

Skin Cancer Diagnosis using Neural Networks

Aug 2018 – April 2019

- Built CNNs and Generative Adversarial Networks in Keras + Tensorflow to improve computer diagnosis of skin cancer

Skills and Interests

Skills: Java, Python, Swift, C++, Keras, Pytorch, Tensorflow, Numpy, Pandas, Git/Github, HTML, CSS, LaTeX, Scikit-learn, Firebase

Miscellaneous Skills: Photoshop, Autodesk Inventor, Solidworks CAD, Welding, CNC Machine, Soldering, Milling

Interests: Photography, Tennis, Snowboarding, Adversarial Attacks in Machine Learning, Robotics, Airplanes